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# CHANGING FOOD RELATED BEHAVIOR THROUGH DESIGN

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## ABSTRACT

The aim of the workshop is to explore how designers can work actively and deliberately with changing food related behavior through socially responsible design. There will be focus on the holistic aspect of behavioral food design with active involving of the users experience. The workshop is based on real-life issues as it takes departure in an ongoing interdisciplinary research project, FRIDA.

**Keywords:** Behavioral change, food design, children, user experience, social design.

## SOCIALLY RESPONSIBLE DESIGN

Designers are increasingly started to focus on designing for social change, which is motivated by meeting social goals rather than, for example, profit maximization (Mulgan, Tucker, Ali and Sanders, 2007). The agenda of social design is inspired by among others Victor Papanek's idea that designers have a responsibility and are able to cause change in the world through design and should design for people's needs rather than their wants (Papanek, 1984). The designers ability to cause a social change leads to discussing design as a behavioral changing practice. Designers can courage certain behavior patterns while discouraging others. By altering small details of a set up it is possible to affect peoples' choices massively. For instance by using small plates people will actually eat less and thereby losing weight (Thaler and Sunstein, 2008). Knowing explicitly about such mechanisms and be able to use them actively in the design process, makes designers extremely influential in society, but also extremely socially responsible. In todays society there are various problems concerned with children and food; childhood obesity is a growing problem, (WHO, 2007), branding of unhealthy food is massively targeted towards

children (Richelsen et al., 2002) and children are losing their food foundation, as being a third generation that grows up without a "traditional" housewife that has good knowledge about food and ingredients (Guldagger and Andersen, 2011). In order to enable designers to make better and more informed choices in terms of affecting food-related behavior it is crucial that they become aware of the human values that influence the design process and hence the designed products.

This highlights the importance of providing designers with the appropriate tools and methods to change food related behavior through socially responsible design.

## WAYS TO DESIGN FOR CHANGING BEHAVIOR

The fact that products affect behavior is not breaking news, both philosophers and sociologists have discussed that aspect for years and within those fields there exist various strategies to affect behavior (Prochaska, DiClemente and Norcross, 1992; Ajzen, 2004). Although design has proven to be a crucial factor when it comes to behavior and thus can have serious implications for society, it is only for a few years that design researchers have started to focus on working deliberately with it (Tromp, Hekkert, Verbeek, 2011). There exist several models for working with changing behavior through design, for example BJ Fogg's model providing a way to change behavior through persuasion (Fogg, 2009), The Design with Intent Toolkit providing an overview of strategies that can be used for changing behavior (Lockton, Harrison, Stanton, 2009) and Classification of Product Influence model focusing on how the user experiences the behavioral effect (Tromp, Hekkert, Verbeek, 2011). Within the area of food there is for example being worked with behavioral change in

terms of “nudging”; proposing simple changes in the environment (Thaler and Sunstein, 2008) and in form of kitchenscapes, tablescales, platescapes and foodscapes, which determine the physical settings and objects contained in the physical setting that influence food intake. (Sobal and Wansink, 2007) An example of designed product within Platescapes is The Wheel of Nutrition by Hafsteinn Juliusson and Rui Pereira (Figure 1), a creative solution of the nutritional aspect of food, that is, a colorful dining plate exemplifying proportions of food according to different needs (Juliusson, 2010). The concept puts a lot of emphasis on modern science rationalization of nutrition and diet, which are, for the general citizen, hard to stick to, due its complexity (Haden, 2006). What is lacking is looking at the holistic aspect as food is much more than eating healthy, “it is about establishing a positive relationship with food” (Daniel, 2006). Therefore it is important to work on making children create a positive and healthy relationship towards food and eating, not only being nutritionally satisfactory, but also emotionally satisfactory. There is a need to focus on the holistic aspect of behavioral food design and active involvement of the users experience.

## WORKSHOP APPROACH

The workshop has explorative approach, where the aim is to elaborate on how designers can work actively and deliberately with changing food related behavior. In order to work holistically and involve the users experience actively, there will be taken point of departure in the Classification of Product Influence model that focuses on user experience and the relationship between the product, human behavior, and the implications of this behavior (Tromp, Hekkert, Verbeek, 2011). Material from the interdisciplinary research project, FRIDA, aiming at how design can support a positive experience of food in day-care institutions, will be used in order to give participants the possibility to try the methods out on real-life issues. The planned length of the workshop is 3 hours and the number of participants is maximum 20. The workshop procedure is as follows;

1. Presentation of workshop challenge. Insights from PhD project are presented through user-scenarios in order to give concrete starting point. The material is in form of video as visual material can gather people around the same data (Pink, 2007), and helps the design team staying close to the actual practice (Johansson, 2005). This session will vary



Figure 1. The Wheel of Nutrition by Hafsteinn Juliusson and Rui Pereira.

approximately 20 minutes.

2. Presentation of important aspects to bear in mind when working holistically with changing food related behavior through design. Those aspects will be used to help the participants to map insights from the first session. This session will vary approximately 20 minutes.

3. Joint idea generation. There is focus from a general behavioral change perspective and afterwards there will be a possibility to choose to work with behavioral change from specific point of view. This session will vary approximately 10 minutes.

4. Presentation of a task to work on. The task is to design a product that makes children create a positive connection towards the feedstock, having the value of being emotionally satisfactory. The product should support food-pedagogy and the context is day-care institutions. This session will vary approximately 10 minutes.

5. Idea generation in groups. Each group focuses on behavioral change from a specific point of view. There will be worked with the material clay in order to facilitate the dialogue between participants, as design thinking is heavily dependent upon references and gesturing with physical objects (Brereton and McGarry, 2000). This session will vary approximately 1 hour.

6. Presentation of design concept. This session will vary approximately 30 minutes.

7. Discussion of how to change food related behavior in relation to the design process and in relation to ethical matters. This session will vary approximately 30 minutes.

As food and meals in our environment are embedded in complex physical, social and cultural contexts (Mikkelsen, 2011) the workshop will only be able to take the first step towards understanding how design can change food related behavior.

## REFERENCES

- Ajzen, I. (2004) The theory of planned behavior, *Organizational Behavior and Human Decision Processes*, Vol. 50, No. 2, pp. 179-211.
- Brereton, M., McGarry, B. (2000) An Observational Study of How Objects Support Engineering Design Thinking and Communication: Implications for the design of tangible media, In: Department of Computer Science and Electrical Engineering, In: *SIGCHI conference on Human factors in computing systems*, 1-6 April, Hague, Netherlands 2(1).
- Daniel, C. (2006) Without Food Everything is Less than Nothing: The Food Narrative and National Identity in Possum Magic and The Magic Pudding. *Food, Culture and Society* 9(3): 275-85.
- Guldagger, M., Andersen, K.J., (2011) Danske børn lærer ikke at lave mad, *Politiken*, 11.11. Available at: <http://politiken.dk/mad/madnyt/ECE1448596/danske-boern-laerer-ikke-at-lave-mad/> [30.04.2012].
- Heyn, M., Dahl, L., Christensen, A., L. M. & Sabinsky, M. (2011) *Evaluering af den ernæringsmæssige kvalitet af madordninger i daginstitutioner*. Søborg: Afdeling for Ernæring. DTU Fødevareinstituttet.
- Johansson, M. (2005), *Participatory inquiry – Collaborative Design*. PhD. School of Engineering Blekinge Institute of Technology.
- Juliussøn, H (2010) *HAF*, Available: <http://www.hafsteinnjuliussøn.com/wheel-of-nutrition/> [30.04.2012].
- Lockton, D., Harrison, D., Stanton, N.A. (2009), The Design with Intent Method: A Design Tool for Influencing User Behaviour, *Applied Ergonomics*, vol. 41, pp. 382-92.
- Mikkelsen, B.E. (2011), Images of foodscapes: introduction to foodscape studies and their application in the study of healthy eating out-of-home environments. *Perspectives in Public Health*, 131, 209-216.
- Mulgan, G., Tucker, S., Ali, R., Sanders, B. (2007), *Social Innovation - What it is, Why it Matters and how it can be accelerated*. London: The Basingstoke Press.
- Papanek, V. (1984) *Design for the Real World*. Academy Chicago Publishers. Second Edition.
- Petersen, T.B. (2010) *Statsfængslet Østjylland som social teknologi: En diskussion af design som et ideologisk og adfærdregulerende fænomen*, PhD thesis, Designskolen Kolding.
- Ping, S. (2007) *Doing Visual Ethnography*. Second Edition. London. Sage Publication Ltd.
- Prochaska, J.O., DiClemente, C.C. & Norcross, J.C. (1992) In search of how people change: Applications to addictive behaviors, *American Psychologist*, vol. 47.
- Richelsen, B., Astrup, A., Hansen, G., Hansen, H., Heitmann, B., Holm, L., Kjær, M., Madsen, S., Michaelsen, K. and Olsen, S. (2002) Den danske fedmeepidemi: Oplæg til en forebyggelsesindsats Publikation nr. 30. Søborg: Ernæringsrådet.
- Sobal, J., Wansink, B. (2007) Kitchenscapes, Tablesapes, Platescapes, and Foodscapes: Influences of Microscale Built Environments on Food Intake, *Environment and Behaviour*, Vol. 39. no. 1, pp. 124-142.
- Thaler, R. H., Sunstein, C.S. 2008, *Nudge Improving Decisions About Health, Wealth and Happiness*, Yale University Press.
- WHO Europe: The challenge of obesity in WHO European region and the strategies for response, Copenhagen: World Health Organisation, 2007.